



2018  
**WATER  
QUALITY  
REPORT**

[WWW.FRISCOTEXAS.GOV/WATER](http://WWW.FRISCOTEXAS.GOV/WATER)

CITY OF FRISCO, TEXAS | PUBLIC WORKS DEPARTMENT

# Message About **OUR WATER**

The City of Frisco's water is safe, high-quality drinking water.

**Frisco's water system has a "superior" rating with the Texas Commission on Environmental Quality (TCEQ) and exceeds all state and federal drinking water standards.**

The Consumer Confidence Report is a summary of the water quality we provide to our customers. It includes information on the water source, contaminants found in the water, special health effects, and any drinking water violations.

This report provides an analysis and summary of recent tests performed, as required by TCEQ. It describes our efforts to provide you with safe drinking water. **The city's distribution system did not receive any health violations in 2017.**

The United States Environmental Protection Agency (EPA) requires every public water system to provide information to each water customer annually.

We hope this information helps you become more knowledgeable about your drinking water. The City of Frisco keeps a record of all water quality reports on the city's website. Visit [friscotexas.gov/water](http://friscotexas.gov/water) to learn more.

## **Why is this report important?**

This report describes the susceptibility and types of constituents, or small amounts of contaminants, that may come into contact with your drinking water source based on human activities and natural conditions. The presence of these substances in drinking water does not necessarily pose a health risk.

The information contained in the assessment allows us to focus on source water protection strategies. For more information on source water assessments and protection efforts of Frisco's system, please contact the Public Works Department at 972-292-5800.

## Special Notice for People with Weakened Immune Systems

Residents with weakened immune systems may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water.

Infants, some elderly or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections.

We recommend you seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to reduce the risk of infection by *Cryptosporidium* are available from the EPA Safe Drinking Water Hotline at (800) 426-4791.

The NTWMD uses Chloramines for disinfection purposes. The benefit is to reduce the levels of disinfection byproducts in the system, while still providing protection from waterborne disease.

The use of Chloramines can cause problems to persons dependent on dialysis machines. A condition known as hemolytic anemia can occur if the disinfectant is not completely removed from the water that is used for the dialysate. Consequently, pretreatment used for dialysis units must include some means, such as a charcoal filter, for removing the Chloramine from the water used. Medical facilities should also determine if additional precautions are required for other medical equipment. Chloraminated water maybe toxic to fish. If you have a fish tank, please make sure the chemicals or filters that you are using are designed for use in water that has been treated with Chloramines. You may also need to change the type of filter that you use for fish tanks.

## Frequently Asked Questions About Water

### Water Quality Concerns?

Frisco Water Division employees check disinfectant residuals daily to confirm the safety of our water. If you have questions on the quality analysis of our water, visit [www.friscotexas.gov/water](http://www.friscotexas.gov/water) or contact the NTMWD at 972-442-5405.

### Pressure Concerns?

Water pressure at your property may be controlled by an individual pressure reducing valve on your service line or by the pressure on the city's water lines. Call the Public Works Department at 972-292-5800 to determine the source of any pressure problems.

### Is Frisco's Water Hard or Soft?

Frisco's water is considered hard. The "hardness" in drinking water is caused by high amounts of calcium and magnesium, two commonly found minerals in water. Washing dishes and producing lather with soap may be difficult.

# Water **QUALITY**

**Drinking water, including bottled water, may contain trace elements of contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material.

Water can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in the source water before treatment may include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants. The NTMWD conducts daily tests on both the raw water in Lavon Lake and the treated water delivered to the City of Frisco. When drinking water meets federal standards there may not be any health-based benefits to purchasing bottled water or point of use devices.

More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at (800) 426-4791.

A Source Water Susceptibility Assessment for your drinking water sources is currently being updated by the TCEQ. Further details about source-water assessments are available in Drinking Water Watch at [dww2.tceq.texas.gov/DWW/](http://dww2.tceq.texas.gov/DWW/).

## **Cryptosporidium**

Cryptosporidium is a microorganism (protozoan) naturally present in lakes and rivers when the water is contaminated with sewage or animal wastes. It affects the digestive tract of humans and animals. People with healthy immune systems will usually recover within two weeks. When ingested, it may result in symptoms that include diarrhea, nausea, and/or stomach cramps. The NTMWD continues to diligently test both the lake water and treated water for the presence of cryptosporidium. Cryptosporidium has been absent in all samples tested.

## **Secondary Constituents**

Secondary constituents, such as calcium, sodium, or iron, often found in drinking water, can cause taste, color, and odor problems. The State of Texas regulates these taste and odor constituents. These constituents are not necessarily causes for health concerns. Secondary constituents are not required to be reported but may affect the appearance and taste of your water.

## **Taste and Odor**

Taste and odor problems can occur in any lake for a number of reasons, such as algae growth, change in temperature, excessive rainfall, flooding, and dry weather conditions. The grassy, earthy taste and smell usually occur during the hot summer months and are not causes for health concerns. The NTMWD uses ozone for primary disinfection at the Wylie Water Treatment Plants and should reduce or eliminate taste and odor issues in the water.



## LOCAL Water Supply

The City of Frisco receives treated water from the NTMWD which supplies water to approximately 1.7 million people in 13 member cities, 80 communities and 10 counties.

Five surface water supply sources currently make up the NTMWD reservoir system that supplies our treated drinking water. The primary source is Lavon Lake with additional sources that include: Jim Chapman Lake, Lake Texoma, Lake Tawakoni, and the East Fork Raw Water Supply Project (Wetland).

The United States Army Corps of Engineers has full authority to operate, maintain, and release water for flood control at its reservoirs used in the NTMWD service area. The NTMWD has water supply rights granted through permits by the State of Texas for use of the stored water in these reservoirs.

## Frisco's Water Distribution System

The City of Frisco Public Works Department distributes approximately 9.4 billion gallons of water annually through 940 miles of water mains and

two pump stations. Storage capacity, including ground and elevated water storage, is 51.75 million gallons.

In the water loss audit submitted to the Texas Water Development Board for the time period of January through December 2017, our system reported an estimated loss of 2.50% or 243,771,101 gallons of water. For questions about the water loss audit, please call 972-292-5800.

## FUTURE Water Supply

The population of the NTMWD service area is expected to double in size by 2050. To meet future water demands, the NTMWD has identified numerous water management strategies and projects to generate additional water supplies.

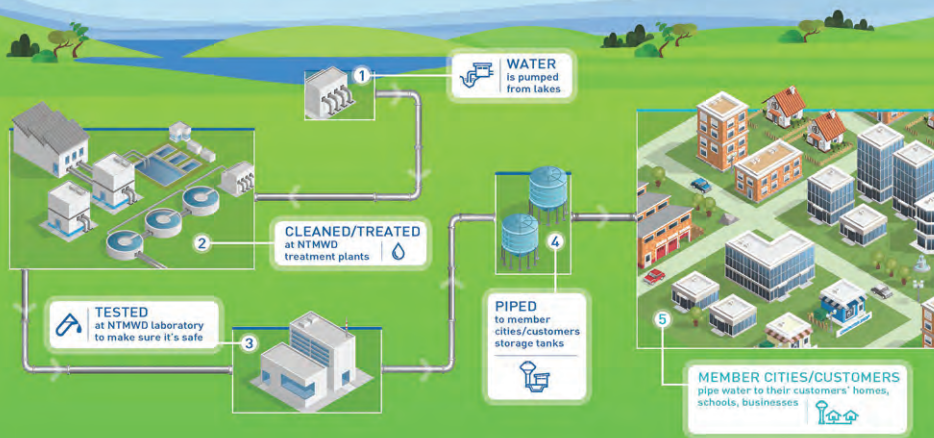
North Texas Municipal Lake, formerly known as the Lower Bois d'Arc Creek Reservoir, is one of these new sources. Located in Fannin County, the project completion date is 2022.

Conservation plays a critical role. More than 30 percent of our future water supply will come from conservation and reuse water strategies.



## GETTING WATER TO YOU

Shared Regional System Serves 80 North Texas Communities



# Drinking Water QUALITY RESULTS

The following table lists the regulated and monitored chemical constituents which have been found in our drinking water. The U.S. EPA requires water systems to test for up to 97 federally regulated primary constituents. (Data collected primarily from 2017)

INORGANIC CONSTITUENTS							
Collection Date	Substance	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
2017	Antimony	Levels lower than detect level	0 - 0	6	6	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition
2017	Arsenic	Levels lower than detect level	0 - 0	0	10	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
2017	Barium	0.060	0.059 - 0.060	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2017	Chromium	Levels lower than detect level	0 - 0	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits
2017	Fluoride	0.38	0.26 - 0.38	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2017	Nitrate (measured as Nitrogen)	0.97	0.09 - 0.97	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits

Nitrate Advisory: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from a health care provider.

2017	Selenium	Levels lower than detect level	0 - 0	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
5/2/16	Beta/photom emitters	6.2	6.2 - 6.2	0	50	pCi/L	Decay of natural and man-made deposits

ORGANIC CONSTITUENTS							
Collection Date	Substance	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
2017	Atrazine	0.20	0.20 - 0.20	3	3	ppb	Runoff from herbicide used on row crops
2017	Di (2-ethylhexyl) phthalate	Levels lower than detect level	0 - 0	0	6	ppb	Discharge from rubber and chemical factories
2017	Simazine	Levels lower than detect level	0 - 0	4	4	ppb	Herbicide runoff

MAXIMUM RESIDUAL DISINFECTANTS								
Year	Substance	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Units	Source of Chemical
2017	Chlorine Residual (Chloramines)	2.6	0.5	4.0	4.0	<4.0	ppm	Disinfectant used to control microbes
2017	Chlorine Dioxide	0	0	0	0.8	0.8	ppm	Disinfectant
2017	Chlorite	0	0	0.072	1.0	N/A	ppm	Disinfectant

Note: The NTMWD, the City of Frisco's water supplier, uses chloramines for disinfection purposes. Chloramines reduce the level of disinfection by-products (DBPs) in the system, while still providing protection from waterborne disease.

DISINFECTION BYPRODUCTS								
Collection Date	Disinfectants and Disinfection By-Products	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
2017	Total Haloacetic Acids (HAA5)	28.6	11.3 - 28.6	No goal for total	60	ppb	N	By-product of drinking water disinfection
2017	Total Trihalomethanes (TTHm)	38.2	12.2 - 38.2	No goal for total	80	ppb	N	By-product of drinking water disinfection
2017	Bromate	Levels lower than detect level	0 - 0	5	10	ppb	N	By-product of drinking water ozonation

UNREGULATED CONSTITUENTS					
Collection Date	Contaminants	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
2017	Chloroform	11.30	4.77 - 11.30	ppb	By-product of drinking water disinfection
2017	Bromoform	7.38	<1.0 - 7.38	ppb	By-product of drinking water disinfection
2017	Bromodichloromethane	13.20	4.58 - 13.2	ppb	By-product of drinking water disinfection
2017	Dibromochloromethane	12.70	2.86 - 12.7	ppb	By-product of drinking water disinfection

Note: Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection by-products. There is no maximum contaminant level for these chemicals at the entry point to distribution.

LEAD AND COPPER							
Collection Date	Contaminants	The 90th Percentile	# of sites exceeded action level	Action Level	Units	Violation	Likely Source of Contamination
2017	Lead	2.2	0	15	ppb	No	Corrosion of customer plumbing; erosion of natural deposits
2017	Copper	0.47	0	1.3	ppm	No	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems

**ADDITIONAL HEALTH INFORMATION FOR LEAD:** If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The water supplier is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

TURBIDITY				
Turbidity	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.74	No	Soil runoff
Lowest monthly percentage (%) meeting limit	0.3 NTU	99.30%	No	Soil runoff

**NOTE:** Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

COLIFORM BACTERIA							
Year	Max. Contaminant Level Goal	Total Coliform Max. Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Max. Contaminant Level	Total No. Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
2017	0	1 positive monthly sample	0	0	0	No	Naturally present in the environment.

**NOTE:** Reported monthly tests found no fecal coliform bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

SECONDARY AND OTHER CONTAMINANTS NOT REGULATED (NO ASSOCIATED ADVERSE HEALTH EFFECTS)						
Collection Date	Substance	Highest Level Detected	Range of Levels Detected	Units	Likely Source	
2017	Calcium	78.5	47.0 - 78.5	ppm	Abundant naturally occurring element	
2017	Chloride	108	14 - 108	ppm	Abundant naturally occurring element; used in water purification; by-product of oil field activity	
2017	Hardness as Ca/Mg	164	159 - 164	ppm	Naturally occurring calcium and magnesium	
2017	pH	8.52	7.8 - 8.52	units	Measure of corrosivity of water	
2017	Sodium	123	46.1 - 123	ppm	Erosion of natural deposits; by-product of oil field activity	
2017	Sulfate	266	47.1 - 266	ppm	Naturally occurring; common industrial by-product; by-product of oil field activity	

## Definitions

### Maximum Contaminant Level (MCL) –

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

### Maximum Contaminant Level Goal (MCLG) –

The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

### Maximum Residual Disinfectant Level (MRDL) –

The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

### Maximum Residual Disinfectant Level Goal (MRDLG) –

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

### Treatment Technique (TT) –

A required process intended to reduce the level of a contaminant in drinking water.

**Action Level (AL) –** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Parts Per Million –** One part per million corresponds to one penny in \$10,000.

**Parts Per Billion –** One part per billion corresponds to one penny in \$10,000,000.

## Abbreviations

**NTU** – Nephelometric Turbidity Unit

**pCi/L** – picoCuries per liter

**ppm** – parts per million, or milligrams/liter

**ppb** – parts per billion, or micrograms/liter

# Our Water RESOURCE

## Where Does Frisco's Water Go?

### YEAR IN REVIEW 2017 Water Usage

As our community continues to grow, we strive to be WaterWise. Frisco's water use totaled 9.4 billion gallons of water or 159 gallons per person per day (GPCD). The state goal is 140 GPCD.

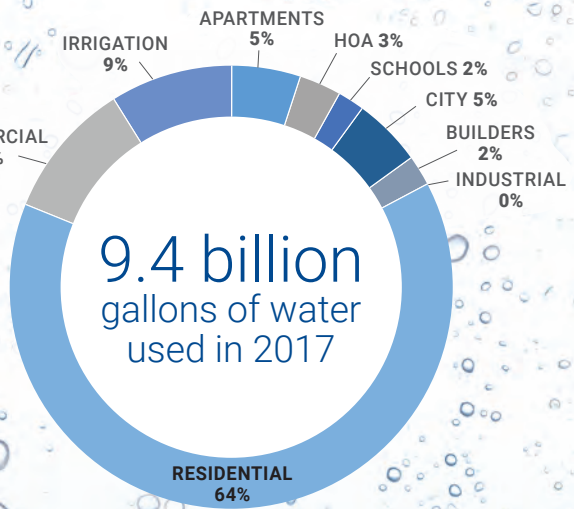
In January, the lowest water use month, Frisco used 102 GPCD. The highest water use month was September, with 228 GPCD. Approximately 65% of Frisco's water consumption in September was for outdoor irrigation.



### WATER WASTE in Frisco

Do you see water waste? By reporting water waste, you are helping the city educate our community about preserving this precious resource. Use the **myFrisco app**, or call the Public Works Department.

If you receive a watering violation and need assistance, contact the Public Works Department at **972-292-5800** or **publicworks@friscotexas.gov**.



### Water Conservation AWARDS

The City of Frisco was recognized by the Texas Section of the American Water Works Association (AWWA) for receiving both the **Bob Derrington Reclamation Award** and the **Large Utility Direct Conservation Award** for the reuse system at The Star. Utilizing reuse water for irrigation saved the City of Frisco 7.3 million gallons of water.

The AWWA also recognized Frisco's Irrigation Station Workshop with the **Large Utility Indirect Reuse Conservation Award**. The workshops provided hands-on demonstrations covering topics such as controllers, heads & nozzles, valves, leaks, and water conservation.

Water Resources received the **People's Choice Award** and earned second place at the EPA Region 6 Stormwater Conference for the role of Green Infrastructure (GI)/Low Impact Development (LID) infrastructure in stormwater protection.





# GREASE YOUR DRAIN'S WORST ENEMY!

## FATS, OILS, AND GREASE (FOG) don't belong down the drain.

- Defend your drains from costly repairs to your plumbing and our wastewater system.
- Scrape all dishes before placing in the sink or dishwasher.
- Collect your FOG in a sealable container, throw it away, or drop it off for recycling at the City of Frisco Environmental Collection Center.

Visit [friscotexas.gov/sewers](http://friscotexas.gov/sewers) for more tips.

## COMMUNITY OPPORTUNITIES

### WATERWISE **COMMUNITY CAPTAIN PROGRAM**

Join our grassroots volunteer network and help spread the word about water conservation programs in your neighborhood. The Community Captain Program is a great way to meet your neighbors and share your enthusiasm for preserving our water supply.

### **PUBLIC PARTICIPATION**

The Frisco City Council meets the first and third Tuesday of every month at 6:30 p.m. The Council Chamber is located in the George A. Purefoy Municipal Center at 6101 Frisco Square Blvd.

Council meetings are open to the public with opportunities for residents to share their comments on any city-related issue.

## Watershed **PROTECTION**

Stormwater runoff is precipitation that does not soak into the ground. It carries litter, pesticides, fertilizers, and other harmful pollutants into local creeks, streams, and lakes.

Help keep our waterways clean. Never sweep or dump anything down storm drains. Learn more about Frisco's Stormwater Program at [www.friscotexas.gov/stormwater](http://www.friscotexas.gov/stormwater).



# Water EFFICIENCY

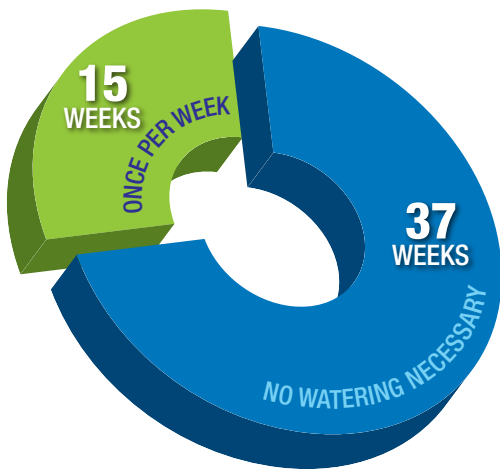
## Frisco's Weather Station

How much water do lawns really need? When it comes to watering efficiently outdoors, knowing how much to water is half the battle.

That's why, in 2008, the City of Frisco installed a weather station, equipped with a rain gauge, in each quadrant of the city. The weather station measures temperature, solar radiation, rainfall, humidity, and wind speed, which helps determine the amount of water a landscape actually needs.

Every Monday, we provide our subscribers with lawn watering advice based on data collected from our weather station. Residents and local landscape professionals use the weekly watering recommendations to adjust sprinkler system schedules.

Let Frisco's weather station data be your smart controller. Subscribe to weekly WaterWise newsletters, via **friscotexas.gov/water**, or call the Watering Line: **972-292-5801**.



## 2017 Watering Recommendations

(Based on data from Frisco's weather station)

### Frisco's Watering Schedule

Keep automatic systems and hose-end sprinklers turned off until weather station data advises otherwise.

- Watering with a sprinkler system is permitted once per week on the residential recycling/trash day, if necessary.
- No watering between 10 a.m. - 6 p.m. during Daylight Saving Time.
- Use hand-held and soaker hoses, drip irrigation, and bubblers up to two hours daily.



## Sprinkler System Check-ups

Do you water wisely? We want to help you reduce your outdoor water use and maintain a healthier landscape. Schedule a **FREE** sprinkler system check-up with a City of Frisco licensed irrigation specialist to ensure your system is operating efficiently.

During a check-up, our specialist will guide you through your sprinkler system operation, identify broken or misaligned sprinkler heads, check for leaks, evaluate water-use efficiency, and set controller run times based on the Cycle and Soak method for watering. Frisco's licensed irrigators performed more than 3,700 check-ups in 2017.

To schedule your **FREE** sprinkler system check-up, use the **myFrisco app** or call **972.292.5800**.

Now available, **FREE** commercial sprinkler system check-ups. To schedule, visit **[friscotexas.gov/commercialcheckup](https://friscotexas.gov/commercialcheckup)**.



## Rainwater Harvesting

Capturing rain from your roof is an easy way to conserve water and help prevent pollution by reducing the amount of runoff entering our storm drain system. The City of Frisco offers discounted rain barrels in the spring. Learn more about the annual rain barrel sale at **[friscotexas.gov/rainbarrel](https://friscotexas.gov/rainbarrel)**.

## WaterWise Workshops

The City of Frisco hosts a variety of workshops and events for residents. Learn about water-saving techniques for your home and conservation principles to preserve and protect our water resources. For more information and to register for **FREE** WaterWise Workshops, visit **[friscotexas.gov/workshops](https://friscotexas.gov/workshops)**.



## No Overseeding!

Planting and watering cool season grasses, such as rye grass, is prohibited as defined in Frisco's Water Management Plan.



CITY OF FRISCO  
Public Works Department  
11300 Research Road  
Frisco, TX 75033

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**Public Works Department**

Phone: 972-292-5800

Email: [publicworks@friscotexas.gov](mailto:publicworks@friscotexas.gov)

Website: [friscotexas.gov/water](http://friscotexas.gov/water)

Watering Line: 972-292-5801



# CURRENT WATER CUSTOMER

Important Information About Your Drinking Water

Para Traducción en Español, por favor de llamar al numero 972-292-5800.